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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/612,146	07/03/2003	Tetsuroh Miura	239799US2	3321
22850	7590	07/11/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			BRASE, SANDRA L	
		ART UNIT	PAPER NUMBER	2852

DATE MAILED: 07/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/612,146	MIURA ET AL.	
	Examiner	Art Unit	
	Sandra L. Brase	2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 28 April 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1,2,4-8,10-14 and 16-33 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) 1,2,4-8,10-14 and 16-21 is/are allowed.
 6) Claim(s) 22-27 is/are rejected.
 7) Claim(s) 28-33 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/8/05&4/28/05</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/28/05 has been entered.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 22, 23, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman et al. (US 6,771,916) in view of Okado et al. (US 6,137,977) and Kato et al. (US 5,038,174).

4. Hoffman et al. (...916) disclose an electrophotographic image forming apparatus comprising: a plurality of photographic elements provided with a photoconductive layer on a surface thereof (col. 11, lines 3-9); a plurality of charging means for uniformly charging the surface of the photoconductive element (col. 11, line 66 – col. 12, line 6); exposing means for exposing the surface of each of the photoconductive elements charged by one of the charging means to thereby form a latent image (col. 11, line 66 – col. 12, line 6); a plurality of developing means each for developing the latent image with toner of a particular color by feeding the toner to one of the photoconductive elements with a development roller to thereby produce a corresponding toner image (col. 11, line 66 – col. 12, line 6); a plurality of image transferring means each for transferring the toner image from one of the photoconductive elements to a subject body (col. 1, lines 15-47; and col. 11, lines 7-43); air sending means for sending air to a space around the plurality of photoconductive elements (abstract; col. 8, line 59 – col. 9, line 2; col. 12, lines 25-51; col. 16, lines 34-67; col. 19, lines 28-58; and col. 32, line 33 – col. 33, line 38); and air conditioning means for dehumidifying air to be sent by the air sending means (abstract; col. 8, line 59 – col. 9, line 2; col. 13, lines 34-42; col. 20, lines 43-65; col. 23, line 52 – col. 24, line 56; col. 32, lines 9-14; and col. 36, lines 8-44). Dehumidified air output from the air sending means is sent into a plurality of image forming modules (abstract; col. 16, lines 34-67; and col. 32, lines 33 – col. 33, lines 38), where each of the image forming module

accommodates the photoconductive element, the charging means and the developing means (col. 11, line 66 – col. 12, line 6; and col. 15, line 38 – col. 16, line 5). However, Hoffman et al. (...916) do not disclose the developing means collecting residual toner, and specifically that the modules are removably mounted. Okado et al. (...977) disclose an image forming apparatus including a developing unit that includes a developing roller configured to feed toner to develop a latent image on a photoconductive element (col. 30, line 23 – col. 31, line 7) and configured to collect residual toner left on the photoconductive element (col. 26, lines 36-49; col. 27, lines 1-5; col. 29, lines 24-31; col. 30, lines 4-10, and col. 32, lines 4-7). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the developing roller collect residual toner left on the photographic element after image transfer, as disclosed by Okado et al. (...977), so that the toner can be collected by the developing device for reuse. Kato et al. (...174) disclose a removably mounted image forming module (K) that includes walls with gaps so as to provide for air flow therethrough (abstract; col. 5, line 13 – col. 6, line 68; and figures 2, 3 and 5). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the modules be removably mounted, as disclosed by Kato et al. (...174) since it is well known in the art to have image forming modules that have walls with gaps for airflow be removably mounted, as disclosed by Kato (...174) so that the modules can be replaced.

5. Claims 24 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moriki et al. (US 6,077,636) in view of Hoffman et al. (US 6,771,916) and Okado et al. (US 6,137,977).
6. Moriki et al. (...636) disclose an electrophotographic image forming apparatus comprising: a photographic element (1, 33 or 103), provided with a photoconductive layer on a

surface thereof; a charging means (2, 46 or 102) for uniformly charging the surface of the photoconductive element; an exposure means (E, 31 and 101) for exposing the surface of the photoconductive element charged by the charging means to thereby form a latent image; a plurality of developing means (4Bk, 4Y, 4C and 4M; or 36, 37, 38 and 39; or 104, 105, 106 and 107) arranged around the photoconductive element and each storing toner of a particular color for developing the latent image with the toner to thereby produce a corresponding toner image (figures 1, 3 and 4); and a transferring means for sequentially transferring toner images sequentially formed on the photoconductive element to a subject body (5 or S) one above the other (figures 1, 3 and 4). However, Moriki et al. (...977) do not disclose the claimed air sending means, the claimed air conditioning means, the developing means collecting residual toner and image forming modules receiving air and being removably mounted. Hoffman et al. (...916) disclose an image forming apparatus including an air sending means for sending air to a space around the plurality of photoconductive elements (abstract; col. 8, line 59 – col. 9, line 2; col. 12, lines 25-51; col. 16, lines 34-67; col. 19, lines 28-58; and col. 32, line 33 – col. 33, line 38); and an air conditioning means for dehumidifying air to be sent by the air sending means (abstract; col. 8, line 59 – col. 9, line 2; col. 13, lines 34-42; col. 20, lines 43-65; col. 23, line 52 – col. 24, line 56; col. 32, lines 9-14; and col. 36, lines 8-44). Dehumidified air output from the air sending means is sent into a plurality of image forming modules (abstract; col. 16, lines 34-67; and col. 32, lines 33 – col. 33, lines 38), where each of the image forming module accommodates the photoconductive element, the charging means and the developing means (col. 11, line 66 – col. 12, line 6; and col. 15, line 42 – col. 16, line 5). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the claimed air sending means

and air conditioning means, as disclosed by Hoffman et al. (...916) so as to manage air quality within the image forming apparatus. Okado et al. (...977) disclose an image forming apparatus including a developing unit including a development roller that is configured to feed toner to develop a latent image on a photoconductive element (col. 30, line 23 – col. 31, line 7) and is configured to collect residual toner left on the photoconductive element (col. 26, lines 36-49; col. 27, lines 1-5; col. 29, lines 24-31; col. 30, lines 4-10; and col. 32, lines 4-7). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the developing means collect residual toner left on the photographic element after image transfer, as disclosed by Okado et al. (...977), so that the toner can be collected by the developing device for reuse. Kato et al. (...174) disclose a removably mounted image forming module (K) that includes walls with gaps so as to provide for air flow therethrough (abstract; col. 5, line 13 – col. 6, line 68; and figures 2, 3 and 5). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the modules be removably mounted, as disclosed by Kato et al. (...174) since it is well known in the art to have image forming modules that have walls with gaps for air airflow be removably mounted, as disclosed by Kato (...174) so that the modules can be replaced.

Allowable Subject Matter

7. Claims 28-33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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8. Claims 1, 2, 4-8, 10-14 and 16-21 are allowed.

Response to Arguments

9. Applicant's arguments with respect to claims 22-27 have been considered but are moot in view of the new ground(s) of rejection.

Prior Art

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Takeda (US 5,081,496), Nagano et al. (US 6,141,512), Nakayama et al. (US 6,308,024) and Ihara et al. (US 6,501,922) disclose an image forming module with openings for airflow.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra L. Brase whose telephone number is (571) 272-2131. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur T. Grimley, can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sandra L. Brase
Primary Examiner
Art Unit 2852

July 7, 2005